

HHD6103BK
 Revision Number 1

Revision date 06-Jul-2020
 Supersedes Date: 06-Jul-2020

1. Identification

Product identifier

Product Name HHD6103BK
 Pure substance/mixture Mixture

Details of the supplier of the safety data sheet

Responsible Party

Bostik (Shanghai) Management Co., Ltd
 Building 1, No.968 Guanghai Road, Minhang District
 Shanghai, China
 Tel: 021-60763101
 Fax: 021-60763133

See section 16 for more information.

E-mail address SDS.AP@Bostik.com

Emergency telephone number

Emergency Telephone 0532-8388 9090 (China only)

Recommended use of the chemical and restrictions on use

Recommended use Adhesive
 Restrictions on use No information available

2. Hazard(s) identification

Emergency Overview

Irritating to skin
 May cause allergic respiratory reaction
 May cause allergic skin reaction
 Contains a known or suspected carcinogen

Appearance Paste Physical state Solid Odor No data available

Classification of the substance or mixture

| | |
|---------------------------|-------------|
| Skin corrosion/irritation | Category 3 |
| Respiratory sensitization | Category 1A |
| Skin sensitization | Category 1A |
| Carcinogenicity | Category 2 |

Label elements



Signal word Danger

Hazard statements

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H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351 - Suspected of causing cancer

Precautionary statements

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P284 - In case of inadequate ventilation wear respiratory protection
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Heat resistant gloves are recommended when handling molten materials

Response

P308 + P313 - IF exposed or concerned: Get medical advice/attention
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards

No information available

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

| Chemical name | CAS No | Weight-% |
|-------------------------------------|----------|----------|
| 4,4'-Methylenediphenyl diisocyanate | 101-68-8 | 1 - <5 |

4. First-aid measures

Description of necessary first aid measures

| | |
|-----------------------|---|
| General advice | Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. |
| Inhalation | May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact | Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. |
| Ingestion | May produce an allergic reaction. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention. |

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Most important symptoms/effects, acute and delayed May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/or wheezing. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

For emergency responders Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact.

Hazardous combustion products Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide. Isocyanates.

Special protective actions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.
For emergency responders Use personal protection recommended in Section 8.

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labeled containers.

Precautions to prevent secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. See Section 8 for information on appropriate personal protective equipment.

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Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

| Chemical name | China | ACGIH TLV |
|--|---|----------------|
| 4,4'-Methylenediphenyl diisocyanate - 101-68-8 | TWA: 0.05 mg/m ³ STEL: 0.1 mg/m ³ Sensitizer+ | TWA: 0.005 ppm |

Note See section 16 for terms and abbreviations

Biological occupational exposure limits

No data available

Monitoring and observation processes

No applicable information was found.

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

| | |
|---------------------------------|---|
| Eye/face protection | Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166. |
| Hand protection | Heat resistant gloves are recommended when handling molten materials. Gloves must conform to standard EN 407. Unsuitable protective clothing. Wet gloves. |
| Skin and body protection | Wear suitable protective clothing. |
| Respiratory protection | In case of inadequate ventilation wear respiratory protection. During spraying wear suitable respiratory equipment. |
| Recommended filter type: | Wear a respirator conforming to EN 140 with Type A/P2 filter or better. Organic gases and vapors filter conforming to EN 14387. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------------|--------------------------|
| Appearance | Paste |
| Color | Black |
| Physical state | Solid |
| Odor | No information available |
| Odor threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH | No data available | |
| Melting point / freezing point | No data available | |
| Boiling point / boiling range | No data available | |
| Flash point | No data available | |
| Evaporation rate | No data available | |
| Flammability (solid, gas) | No data available | |
| Flammability Limit in Air | | |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive | No data available | |

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| | |
|---------------------------|--------------------|
| <u>limits</u> | |
| Vapor pressure | No data available |
| Vapor density | No data available |
| Relative density | No data available |
| Water solubility | No data available |
| Solubility(ies) | No data available |
| Partition coefficient | No data available |
| Autoignition temperature | No data available |
| Decomposition temperature | No data available |
| Kinematic viscosity | No data available |
| Dynamic viscosity | approx. 9000 mPa s |

| | |
|-------------------------------|--------------------------|
| <u>Additional information</u> | |
| Oxidizing properties | No information available |
| Solid content (%) | No information available |
| VOC Content (%) | No information available |
| Density | No information available |

10. Stability and reactivity

| | |
|---|---|
| <u>Stability</u> | Stable under normal conditions. |
| <u>Possibility of hazardous reactions</u> | None under normal processing. |
| <u>Sensitivity to mechanical impact</u> | None. |
| <u>Sensitivity to static discharge</u> | None. |
| <u>Conditions to avoid</u> | None known based on information supplied. |
| <u>Incompatible materials</u> | None known based on information supplied. |
| <u>Hazardous decomposition products</u> | None known based on information supplied. |

11. Toxicological information

Product Information

| | |
|---------------------|--|
| <u>Inhalation</u> | Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components). |
| <u>Eye contact</u> | Based on available data, the classification criteria are not met. |
| <u>Skin contact</u> | Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact. Causes mild skin irritation. |
| <u>Ingestion</u> | Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". |

Acute Toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (inhalation-dust/mist) 50.00 mg/l

Component Information

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| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-------------------------------------|--|---|------------------------|
| 4,4'-Methylenediphenyl diisocyanate | =31600 mg/kg (Rattus) = 9200 mg/kg (Rattus) | LD 50 > 9400 mg/kg (Oryctolagus cuniculus) OECD 402 | =1.5 mg/L (Rattus) 4 h |

Skin corrosion/irritation Classification based on data available for ingredients. May cause skin irritation.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

| Component Information | | | | | |
|---|---------|----------------|----------------|---------------|--------------|
| 4,4'-Methylenediphenyl diisocyanate (101-68-8) | | | | | |
| Method | Species | Exposure route | Effective dose | Exposure time | Results |
| OECD Test No. 405: Acute Eye Irritation/Corrosion | Rabbit | Eye | 0.1 mL | 24 hours | Non-irritant |

Respiratory or skin sensitization May cause sensitization by inhalation. May cause sensitization by skin contact.

| Component Information | | | |
|--|---------|----------------|-------------|
| 4,4'-Methylenediphenyl diisocyanate (101-68-8) | | | |
| Method | Species | Exposure route | Results |
| OECD GD 39 | Rat | Inhalation | Sensitizing |

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Classification based on data available for ingredients.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | China | IARC |
|-------------------------------------|-------|---------|
| 4,4'-Methylenediphenyl diisocyanate | - | Group 3 |

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure) Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|-------------------------------------|---|--------------------------|--|
| 4,4'-Methylenediphenyl diisocyanate | ErC50 (72h) >1640 mg/L Algae (scenedesmus subspicatus) (OECD 201) | >1000 mg/l (Danio rerio) | EC50 (24H) >1000 mg/L Daphnia magna |

Persistence and degradability No information available.

Bioaccumulative potential There is no data for this product.

Component Information

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| Chemical name | Partition coefficient |
|-------------------------------------|-----------------------|
| 4,4'-Methylenediphenyl diisocyanate | 4.51 |

| Chemical name | PBT and vPvB assessment |
|---|---------------------------------|
| 4,4'-Methylenediphenyl diisocyanate 101-68-8 | The substance is not PBT / vPvB |

Mobility in soil No information available.

13. Disposal considerations

Waste chemicals Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

IMDG Not regulated

IATA Not regulated

China Not regulated

ADR Not regulated

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

SDS and Label prepared in compliance with the following regulations:

Decree No. 591 of the State Council of the People's Republic of China

General Rule for classification and hazard communication of chemicals, GB 13690

Series standards of Safety rules for classification, precautionary labeling and precautionary statements of chemicals, GB 30000.2-GB 30000.29

General rules for preparation of precautionary label for chemicals, GB 15258

Safety data sheet for chemical products—Content and order of sections, GB/T 16483 GB/T17519

Regulations on the Control over Safety of Hazardous Chemicals

China - Catalog of Hazardous Chemicals - Hazardous Chemicals

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

| Chemical name | China - Catalog of Hazardous Chemicals - Hazardous Chemicals | Weight-% |
|---|--|----------|
| 4,4'-Methylenediphenyl diisocyanate 101-68-8 | Listed | 1 - <5 |

List of hazardous chemicals under priority management Not applicable

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods Not applicable

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Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

Not applicable

Japan

Pollutant Release and Transfer Registry (PRTR)

This product contains the following Class 1 and Class 2 Designated Chemical Substances per Japan PRTR Law.

| Chemical name | Weight-% | Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances |
|---|----------|---|
| 4,4'-Methylenediphenyl diisocyanate 101-68-8 | 1 - <5 | x |

Korea

Chemicals Control Act (CCA)

This product contains the following substance(s)

| Chemical name | Weight-% | Toxic substance | Prohibited substance | Restricted substance | Chemicals Control Act (CCA) - Accident Precaution Chemicals | Existing substances subject to registration |
|---|----------|-----------------|----------------------|----------------------|---|---|
| 4,4'-Methylenediphenyl diisocyanate 101-68-8 | 1 - <5 | X | | | | X |

Industrial Safety and Health Law

Not applicable

Safety Control of Dangerous Substances Act

Not applicable

Korea - MOE - Waste Control Act - Hazardous Substances in Controlled Waste

Not applicable

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Europe

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

SVHC: Substances of Very High Concern for Authorization:

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

2011/65/EU - RoHS

This product does not contain Lead (7439-92-1), Cadmium (7440-43-9), Mercury (7439-97-6), Hexavalent chromium (7440-47-3), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE) above the regulated limit mentioned in this regulation

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16. Other information

Local Contacts

| | | |
|---|--|---|
| Bostik Findley (Malaysia) Sdn. Bhd Lot 112 & 113, Kawasan Perindustrian senawang, seremban, negeri sembilan, Malaysia Tel: 606-6789788 Fax: 606-6789766 | Bostik Asia Pacific 1 Science Park Road, #04-01/05 West Wing, The Capricorn, Singapore Science Park II, Singapore 117528 Tel: +65-6419-9161 Fax: +65-6419-9150 | Bostik (Thailand) Co., Ltd 1/32 Bang-na Thani Tower 16th A Foolr. Soi Bangna-Trad 34, Bangna-Trad rd. Bang-na, Bangkok Tel: 02-361 6460-7 Fax: 02-361 6469 |
| Bostik Phillippines, Inc. 35/F Raffles Corporate Center, F. Ortigas Jr. Road Ortigas Business Center, Pasig city, Phillippines Tel: 632-900-5656 Fax: 632-900-5622 | Bostik Indonesia Setiabudi Atrium Building, Level 2, Suite 203 A Jl. HR Rasuna Said Jakarta Indonesia 12920 Tel: 62 21 521 0404 Fax: 62 21 521 0554 | Bostik Vietnam Company Limited 10 Doc Lap Avenue, VSIP 1. Thuan An District, BinhDuong Province. Viet Nam. Tel: 84 650 3765105 Fax: 84 650 3765109 |
| Bostik India Private Ltd 124/1 & 124/2A Kachanayakanahalli Behind Bommasandra Indl.Area Off Hosur Road, Hennagara Post, Anekal Taluk Bangalore - 562106, Karnataka, INDIA Tel: 0091-80-27833520 Fax: 00 91-80-27831324 Email: Bostikinfo.India@bostik.com | Jiangsu Bositk Adhesive Co.,Ltd No.15-9, Xinggang Road, Changshu Enconomic Development Zone Jiangsu Province 215536 Tel: 0086-512-52266000 Fax: 0086-512-52266020 | Bostik Findley (China) Co.,Ltd No.75, Xin Zhuang 2 Road, Yong He District, GETDD Guangzhou, 511356, China TEL: 020 -32226211 FAX: 020 -32226261 |

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Revision note The symbol (*) in the margin of this SDS indicates that this line has been revised.

Abbreviations and acronyms

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---------|---|
| TWA | TWA (time-weighted average) |
| STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Ceiling Limit Value |
| * | Skin designation |
| SVHC | Substance(s) of Very High Concern |
| PBT | Persistent, Bioaccumulative, and Toxic (PBT) Chemicals |
| vPvB | Very Persistent and very Bioaccumulative (vPvB) Chemicals |
| STOT RE | Specific target organ toxicity - Repeated exposure |
| STOT SE | Specific target organ toxicity - Single exposure |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)

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National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet